

***Dactylogyrus boopsi* sp. n. (Monogenea: Dactylogyridae) from the Bigeye Shiner, *Notropis boops* Gilbert (Pisces: Cyprinidae)**

DONALD G. CLOUTMAN

Duke Power Company, Applied Science Center, 13339 Hagers Ferry Road, Huntersville, North Carolina 28078

ABSTRACT: *Dactylogyrus boopsi* sp. n. is described from the bigeye shiner, *Notropis boops* Gilbert, from Arkansas. *Dactylogyrus boopsi* closely resembles *D. perlus* Mueller, 1938, but the attenuated portion of the cirrus is shorter, and the basal process of the cirrus is narrower in *D. boopsi* than in *D. perlus*.

KEY WORDS: *Dactylogyrus boopsi* sp. n., *Notropis boops*, Monogenea, Dactylogyridae, morphology, taxonomy.

A new species of *Dactylogyrus* Diesing, 1850, is described from the bigeye shiner, *Notropis boops* Gilbert. This is the first report of any parasite from the bigeye shiner.

Materials and Methods

Immediately after capture, bigeye shiners were placed in jars containing a 1:4,000 formalin solution; after approximately 1 hr, enough formalin was added to make a 10% solution (Putz and Hoffman, 1963). The parasites, collected from the gills of their hosts, were mounted in glycerin jelly, and observations were made with a Zeiss phase-contrast microscope. Drawings were made with the aid of a Zeiss drawing tube. Measurements, in micrometers, were made as presented by Mizelle and Klucka (1953); means are followed by ranges in parentheses. Numbering of haptor hooks is after Mueller (1936).

Type specimens were deposited in the helminthological collections of the National Museum of Natural History (USNM) and of the Harold W. Manter Laboratory, University of Nebraska State Museum (HWML). Nontype specimens are in the author's (DGC) and Wilmer A. Rogers' (WAR) collections. For comparative purposes, all original descriptions and redescrptions of North American *Dactylogyrus* species, and the following specimens of *D. perlus* Mueller, 1938 (synonym = *D. banghami* Mizelle and Donahue, 1944) (see Cloutman, 1988), were examined: USNM 73552 (1 syntype of *D. banghami*); HWML 21545 (2 syntypes of *D. banghami*); USNM 71454, 71457 (3 syntypes of *D. perlus*); HWML 21305 (1 voucher specimen).

Results and Discussion

***Dactylogyrus boopsi* sp. n. (Fig. 1)**

TYPE LOCALITY: Arkansas: Franklin Co., Mulberry River at Redding Access, 3 km E of Cass.

TYPE SPECIMENS: Holotype, USNM 83280; 9 paratypes, USNM 83281 (6 specimens) and HWML 36962 (3 specimens).

OTHER LOCALITIES: Arkansas: Fulton Co., Spring River near Mammoth Spring (WAR); Newton Co., Buffalo River near Hasty (DGC);

Polk Co., Ouachita River, 3 km S of Cherry Hill (DGC); Washington Co., Clear Creek at Hwy 112 bridge (DGC).

DESCRIPTION: With characters of the genus as emended by Mizelle and McDougal (1970). Body with thin tegument; length 244 (180–288), greatest width 60 (29–72). Two pairs of eyes, anterior pair usually smaller and farther apart than posterior pair. Peduncle 23 (7–39) long, 30 (19–42) wide. Haptor 36 (28–49) long, 40 (28–49) wide.

Dorsal anchor composed of solid base with short deep root, elongate superficial root, solid shaft, and sharp recurved point; length 21 (19–23); greatest width of base 13 (10–15). Ventral 4A (see Kritsky and Kulo, 1992) length 4. Dorsal bar length 21 (18–22). Vestigial ventral bar length 14 (13–15). Fourteen hooks (7 pairs), similar in shape, and normal in arrangement (Mizelle and Crane, 1964). Each hook composed of solid base, solid slender shaft, and sickle-shaped termination provided with opposable piece. Hook lengths: no. 1, 12 (11–13); 2, 15 (14–15); 3, 15 (14–15); 4, 13 (11–14); 5, 15 (14–15); 6, 12 (10–13); 7, 14 (13–15).

Copulatory complex composed of cirrus, articulated accessory piece. Cirrus with enlarged base bearing a straight, tapering process and curved tubular shaft attenuated to a point. Cirral length 37 (33–41). Accessory piece bifurcate; distal ramus curved, attenuated to a point; mesial ramus recurved, attenuated to a point. Accessory piece length 20 (18–21). Vagina sclerotized, irregular in shape, opening dextroventrally posterior to cirrus, length 14 (12–16). Vitellaria light to moderate, usually distributed from pharynx to haptor.

REMARKS: *Dactylogyrus boopsi* closely resembles *D. perlus*, but comparisons revealed 2 distinct differences: (1) the attenuated portion of the cirrus shaft of *D. boopsi* is shorter (goes ca. 4 times into shaft length) than that of *D. perlus* (goes ca. 2.5 times into shaft length), and (2) the

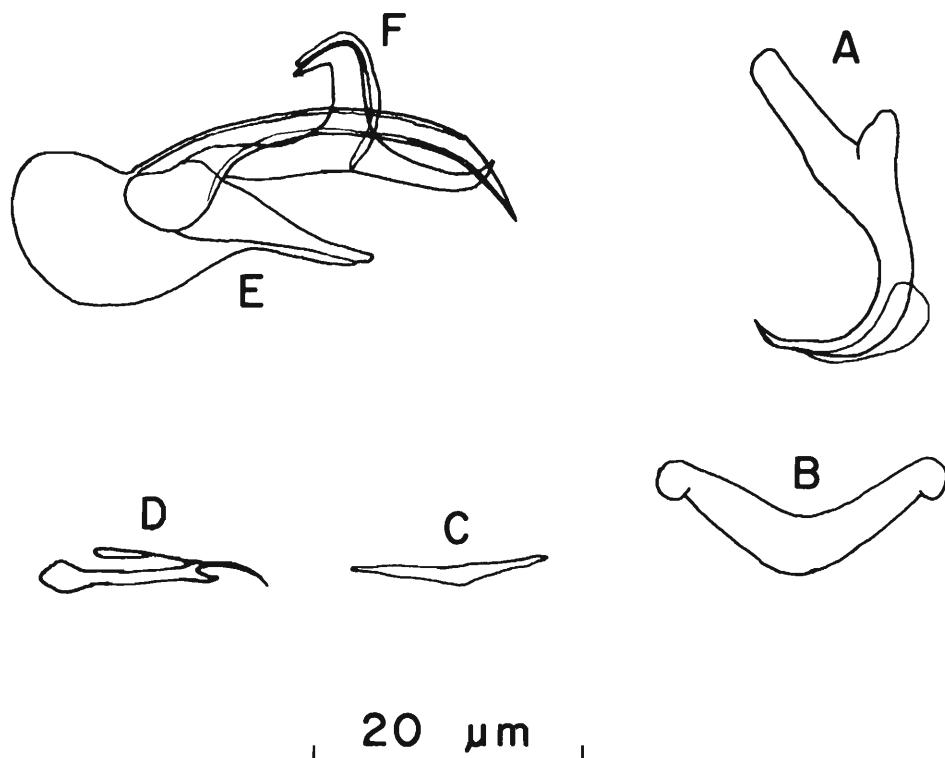


Figure 1. *Dactylogyrus boopsi* sp. n., holotype. A. Anchor. B. Dorsal bar. C. Ventral bar. D. Hook. E. Cirrus. F. Accessory piece.

basal process of *D. boopsi* is not as robust as that of *D. perlus*.

ETYMOLOGY: *Dactylogyrus boopsi* is named after its host.

Acknowledgments

I thank Dr. Wilmer A. Rogers, Auburn University, for loaning material from Spring River. Dr. Henry W. Robison, Southern Arkansas University, collected hosts from the Ouachita River. Drs. J. Ralph Lichtenfels and Mary Hanson Pritchard loaned type material from the USNM and HWML, respectively.

Literature Cited

- Cloutman, D. G. 1988. *Dactylogyrus* (Monogenea: Dactylogyridae) from seven species of *Notropis* (Pisces: Cyprinidae) from the Tennessee River drainage: descriptions of four new species and remarks on host relationships. *Proceedings of the Helminthological Society of Washington* 55:214–223.
- Kritsky, D. C., and S.-D. Kulo. 1992. *Schilbetrema- toides pseudodactylogyrus* gen. et sp. n. (Monogeneoidea, Dactylogyridae, Ancyrocephalinae) from the gills of *Schilbe intermedius* (Siluriformes, Schilbeidae) in Togo, Africa. *Journal of the Helminthological Society of Washington* 59:195–200.
- Mizelle, J. D., and J. W. Crane. 1964. Studies on monogenetic trematodes, XXIII. Gill parasites of *Micropterus salmoides* (Lacépède) from a California pond. *Transactions of the American Microscopical Society* 83:343–348.
- , and A. R. Klucka. 1953. Studies on monogenetic trematodes. XIV. Dactylogyridae from Wisconsin fishes. *American Midland Naturalist* 49:720–737.
- , and H. D. McDougal. 1970. *Dactylogyrus* in North America. Key to species, host-parasite and parasite-host lists, localities, emendations, and description of *D. kritskyi* sp. n. *American Midland Naturalist* 84:444–462.
- Mueller, J. F. 1936. Studies on North American Gyrodactyloidea. *Transactions of the American Microscopical Society* 55:55–72.
- Putz, R. E., and G. L. Hoffman. 1963. Two new *Gyrodactylus* (Trematoda: Monogenea) from cyprinid fishes with a synopsis of those found on North American fishes. *Journal of Parasitology* 49:559–566.